

ISLAMIC REPUBLIC OF MAURITANIA

Electricity Sector, a rapidly changing sector...



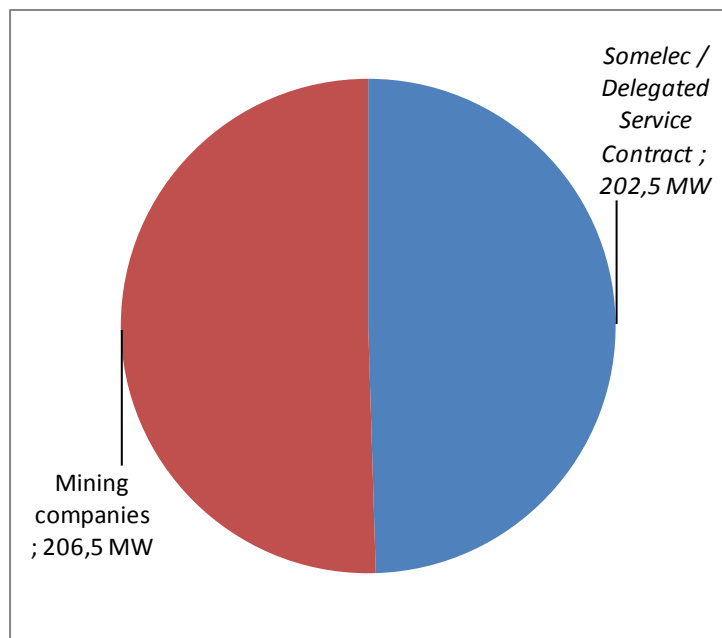
■ Strategy :

- Add production capacity from local resource (mainly gas and hydroelectricity);
- Develop grid and interconnection with neighboring counties ;
- Enhance part of renewable energies in the energy mix.

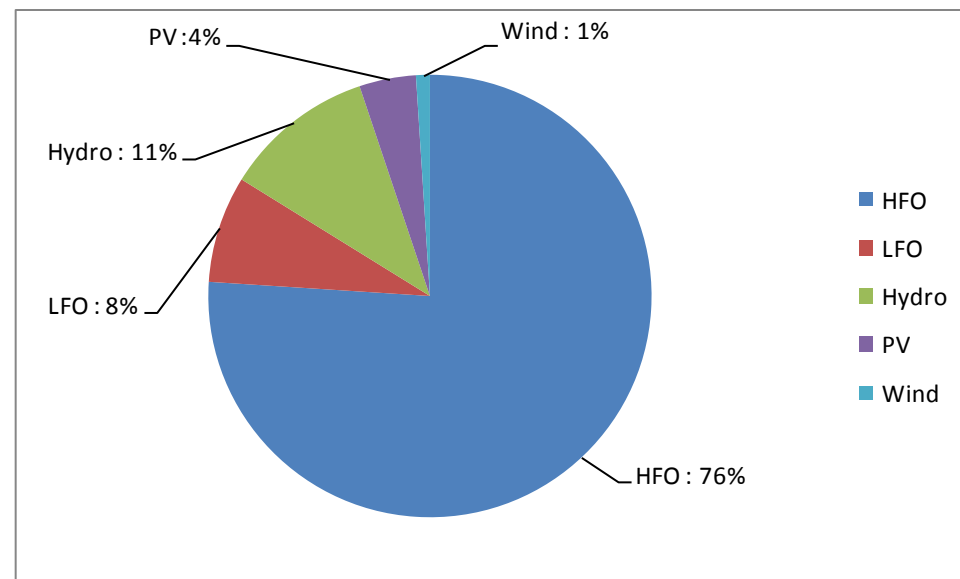
■ Opportunities :

- Increasing contribution of extractive industries in national GDP
 - Development of oil exploration. Discoveries offshore natural gas.
 - Development or expansion of new mining projects (Kinross-Tasiast / Snim / Glencore, etc.).
- Nouadhibou Free Zone

■ Installed Capacity



Mining versus Somelec



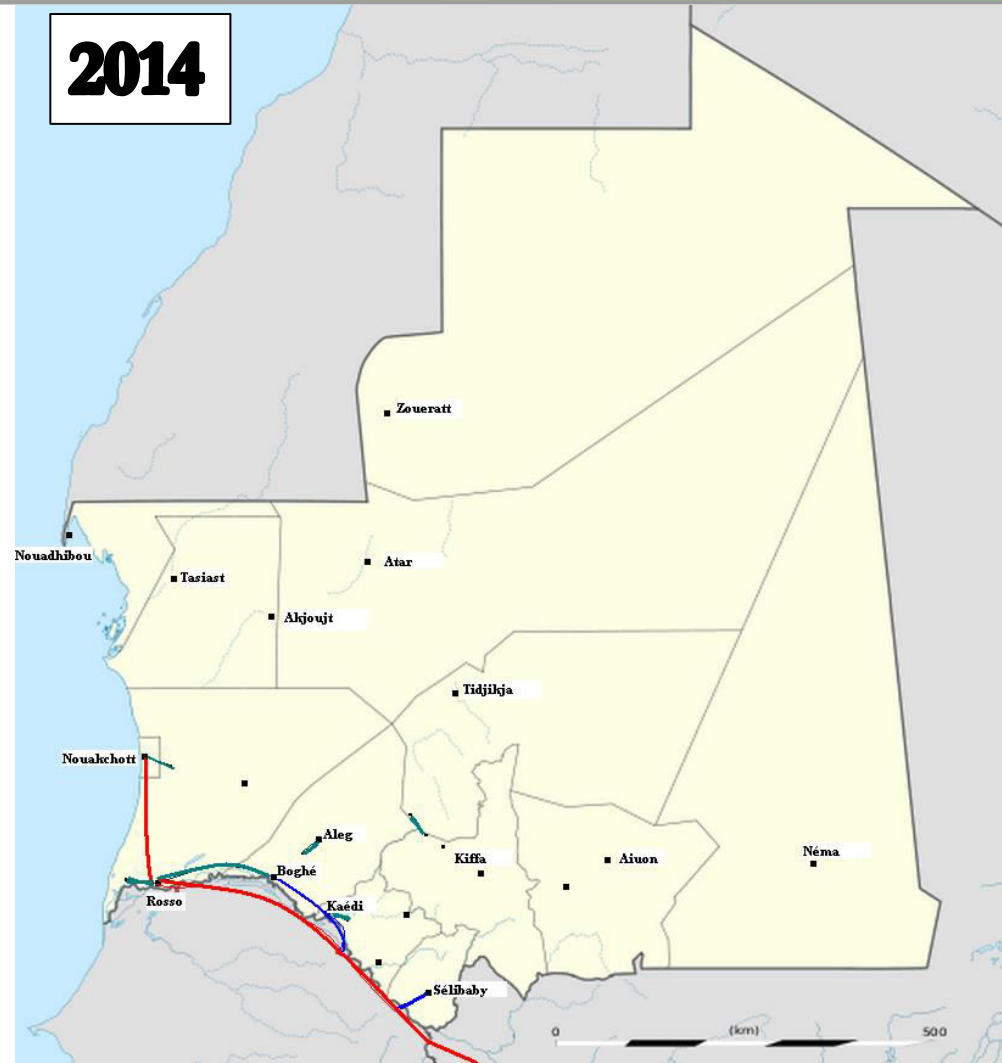
Technology breakdown

■ 2013 census / Data electricity :

- 72 cities with electricity in 2014 versus 41 in 2008
- Nouakchott (27% of the population) and Nouadhibou (2nd city) : 100% access.
- 6 out of 47 cities with more than 5.000 inhabitants with out electricity
- 27 out of 48 cities with population between 2.500 and 5.000 with out electricity
- About 2.000 cities with population between 2.500 and 5.000 and 6.000 with less than 1.000 inhabitants

■ Main Challenge:

- Provide an affordable electricity to all citizens despite geographical constraints
- Provide industrial sector with a secure and reasonably priced to boost the economy

2014

Dab SIDI BOUNA, Director of Electricity and Energy Management - Ministry of Petroleum, Energy and Mining.

REGULATION ACT (2001)

Regulating the activities of electricity, water, telecommunications, and postal

REGULATION AUTHORITY

–Approves the bids, conduct launch, evaluates tenders and awards licenses and permits,

–Develop the specifications of public service delegation;

–Estimates the amount of compensation for public service delegation;

Ministry in charge of Electricity

Develops, implements, monitors the implementation of policies, strategies and programs of the State in Electricity Sector.

ELECTRICITY CODE (2001)

Activities of generation, transmission, distribution and resale of electricity, liberalized and subject to licensing under the control of the regulatory authority (2001).

SOMELEC CONTRACT PROGRAM

Intervene urban area

APAUS

Promotes universal access to regulated services

Intervene rural area

–Building networks;

–Thermal power plants;

–Maintenance power plants

ADER

Promotes rural electrification

Intervene rural area

–Solar kits;
–thermal power plants
–Hybridization of plants;
–power plants
Maintenance

PRODUCTEURS INDÉPENDANTS

SNIM

Self Producer
–Distributor :Zoueratt

MCM

Self Producer

TAZIAST

Self Producer

–Ensures the generation, transmission, distribution, purchase and sale of electricity in urban areas.

–Currently manages 44 centers.

–Administered prices.

–180,000 customers.

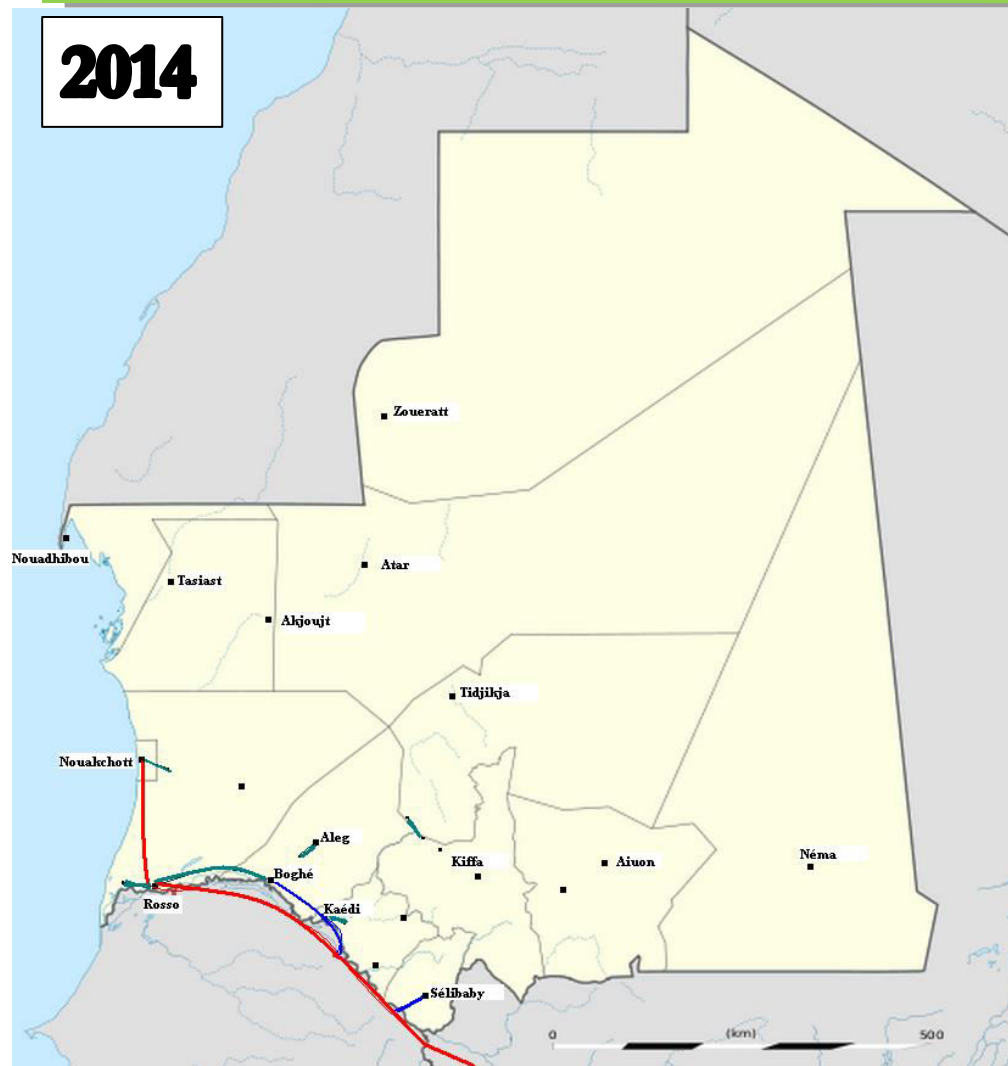
–Balancing subsidy in 2013:
6.000.000.000 UM

6,000 customers / 20 centers / Tariffs:
(1) 51 UM / kWh (2) 81 UM / kWh (3) 91 UM / kWh



■ Forecast Supply Demand Balance (in MW):

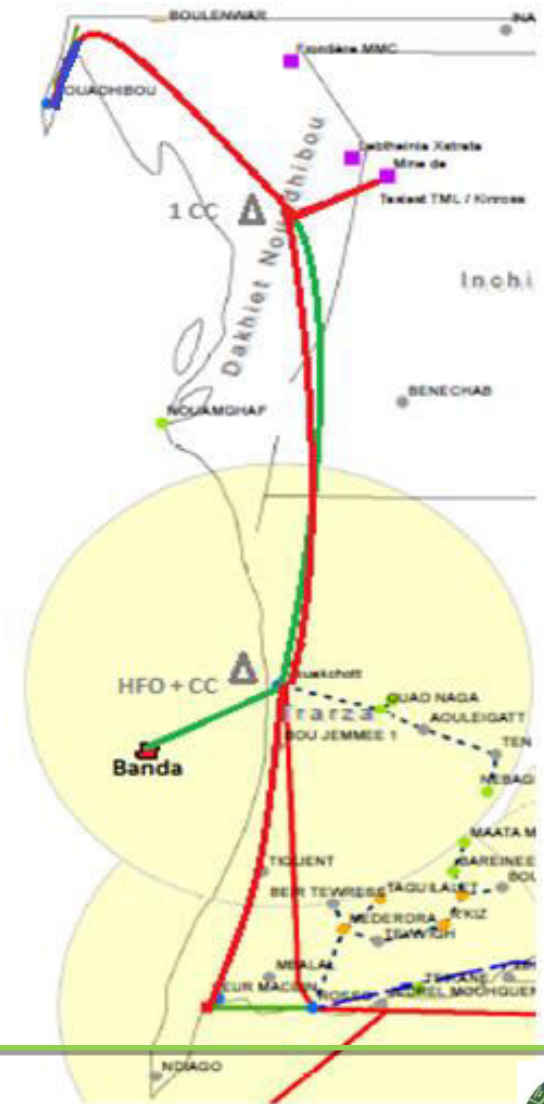
| Année | Interconnecté - Sc. moyen | Interc. + Mines - Sc. moyen | Interconnecté - Sc. Haut | Interc. + Mines - Sc. Haut | Interconnecté - Sc. Bas | Interc. + Mines - Sc. Bas |
|-------|------------------------------|--------------------------------|-----------------------------|-------------------------------|----------------------------|------------------------------|
| 2015 | 129 | 461 | 143 | 475 | 102 | 229 |
| 2016 | 144 | 476 | 161 | 494 | 110 | 432 |
| 2017 | 156 | 569 | 174 | 588 | 136 | 468 |
| 2018 | 170 | 784 | 188 | 802 | 149 | 482 |
| 2019 | 184 | 798 | 203 | 818 | 160 | 573 |
| 2020 | 196 | 811 | 220 | 835 | 172 | 786 |
| 2021 | 208 | 1 319 | 237 | 1 347 | 183 | 798 |
| 2022 | 222 | 1 333 | 255 | 1 366 | 192 | 808 |
| 2023 | 236 | 1 347 | 275 | 1 385 | 202 | 818 |
| 2024 | 251 | 1 362 | 295 | 1 406 | 212 | 828 |
| 2025 | 267 | 1 377 | 318 | 1 429 | 223 | 838 |

2014**2017**

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■ Transmission lines :

- HV 225kV line, North plant OMVS substation, Procurement ongoing, Funded by AFESD
- HV 225kV line, Nouakchott - Nouadhibou, Procurement ongoing, Funded by SDF
- HV 225kV line, Nouakchott – river Senegal, Procurement ongoing, Funded by AFD
- HV 90 kV and MV 33kV inter connexion with OMVS grid, feasibility study



■ Dhar Hybrid Solar/Diesel Power Plant :

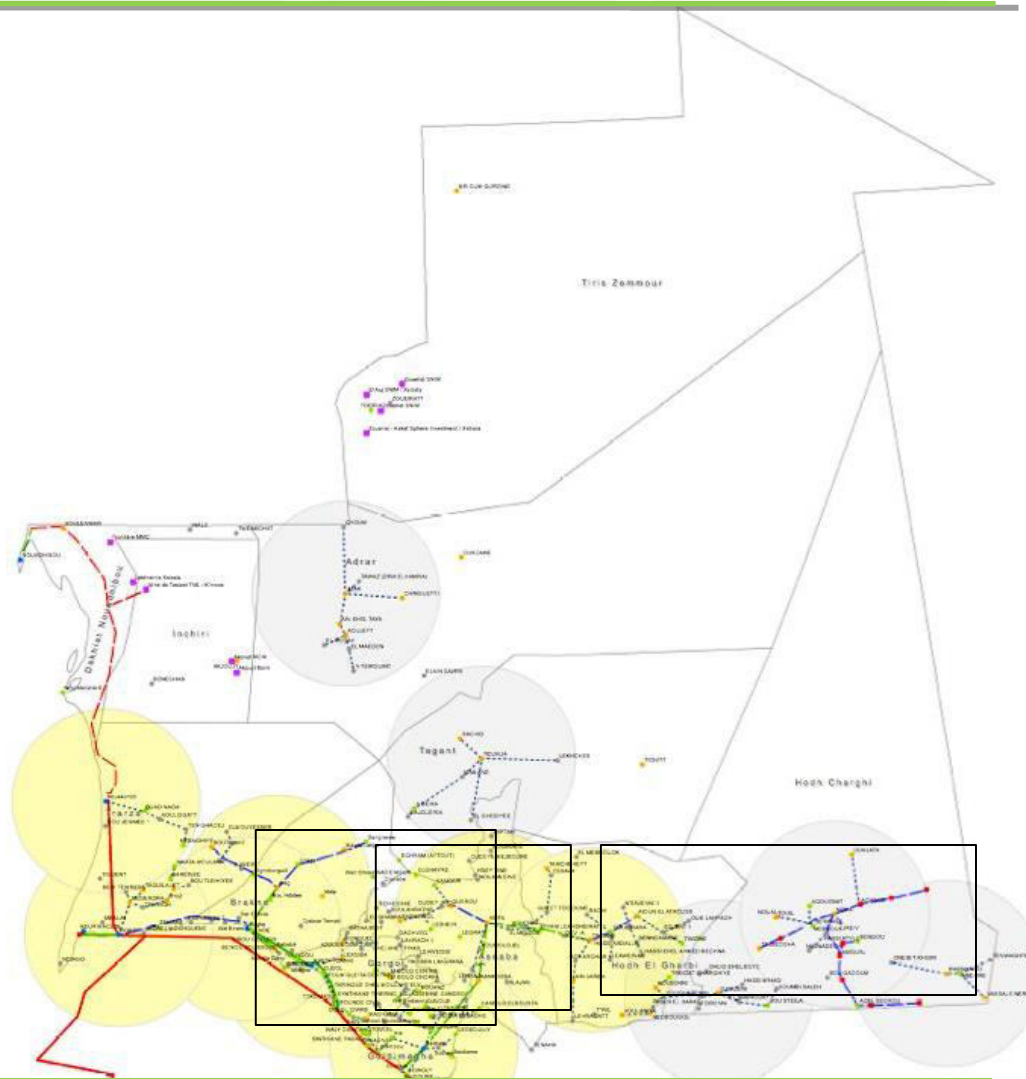
- ✓ 2 plants : 2+1 MW Solar Plant, 4+2 MW Diesel (Nema & Adel Bagrou) and more than 500 km lines
- ✓ 49 € Million, Funding requested

■ Aftout Echergui Solar Power Plant :

- ✓ 2,2 MW PV Plant, 0,5 MW Diesel and 270 Km 33kV lines, 60 km distribution, \$30 Million, Financed by OFID and IsDB

■ Kiffa Solar Power Plant :

- ✓ 1,4 MW PV Plant, 4 MW Diesel and 65 km 33kV lines, 23M € Million, Financed by AFD



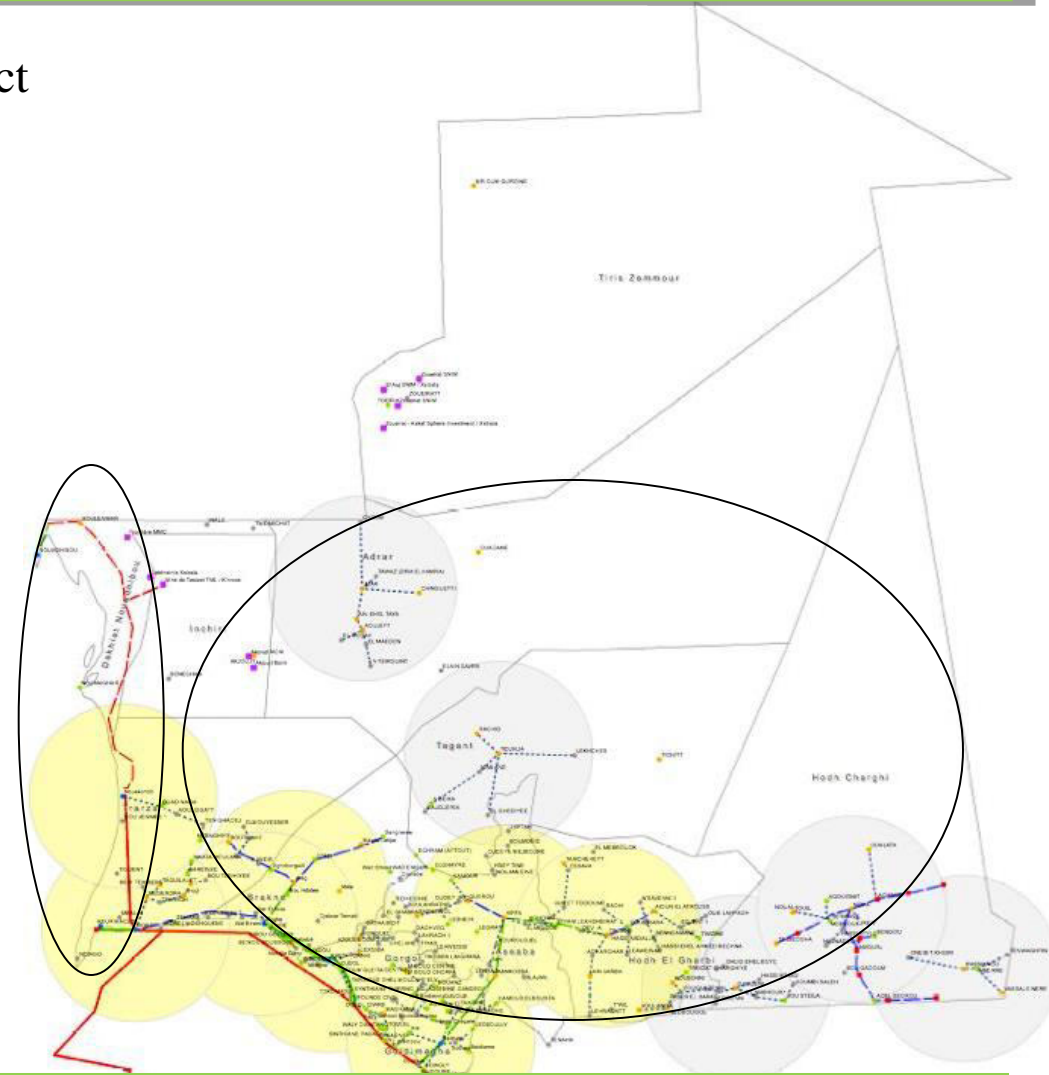
■ Portfolio of Renewable Energies Project for small communities

■ Coastal communities: wind Energy

- >200 KW Wind plants

■ Hinterland communities : Solar Energy :

- > 100 KW PV plants
- PV units <5 KW (very small communities)



Gas to Power Project



■ Gas fired Power Plant :

- ## ■ Gas fired Power Plant :



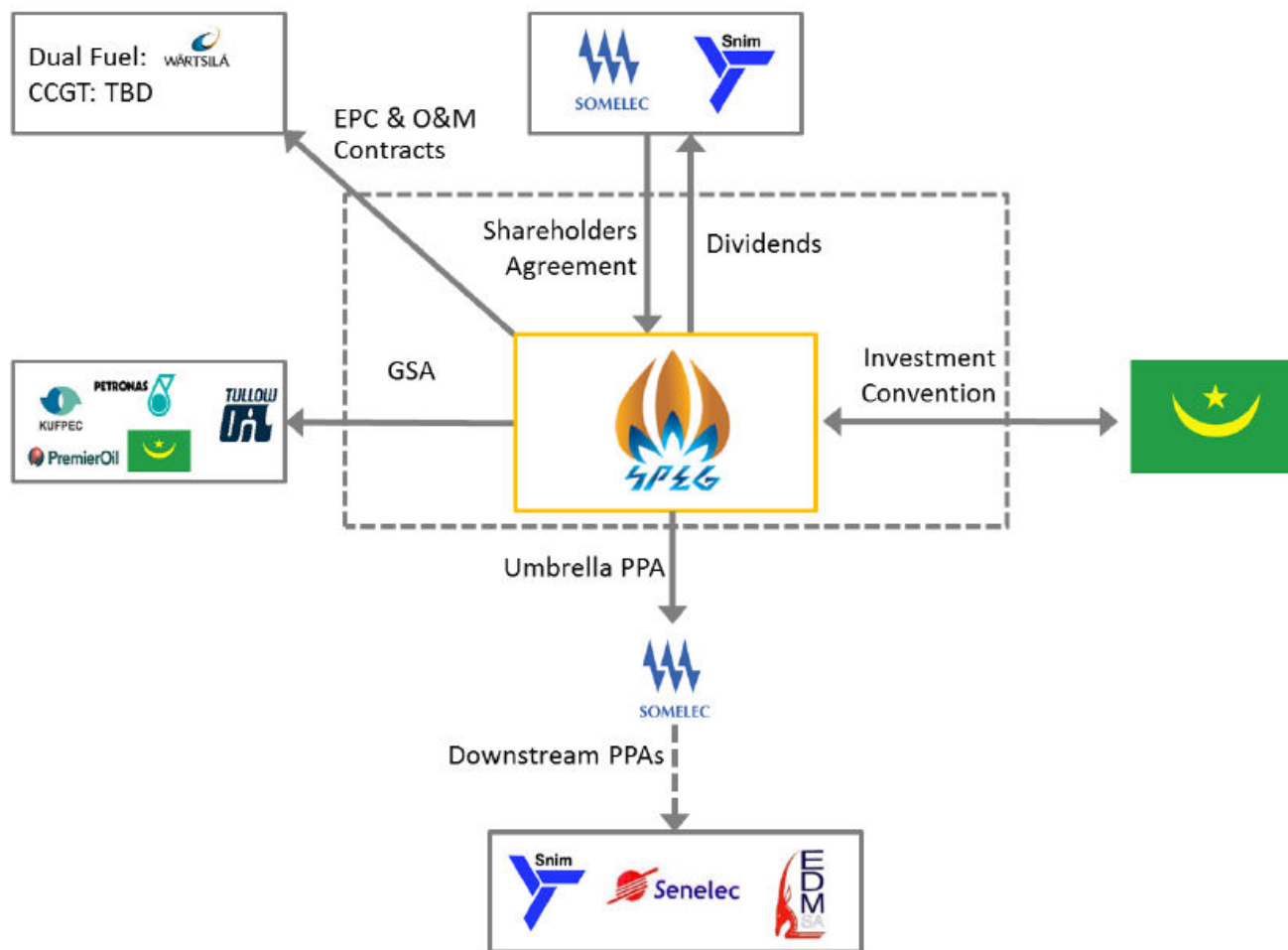
■ Why develop off the shore field for electricity purpose?

- Discoveries not sufficient to develop an LNG project;
- Provide domestic and mining demand with a clean, secure and affordable energy;
- Reduce the energy bill and dependency on oil prices fluctuation;
- End subsidies.

■ Why export part of the production ?

- Project based on a GSA contract (20 years Take or Pay) with Tullow Oil as the Operator:
 - \$650 million upstream investment
 - Minimum 42 mmscfd consumption
 - Minimum of 300 MW Gas powered plants to be installed by SPEG
- Tighten ties with neighboring countries who face critical situation
- Contracts guaranteed by World Bank (PRG & MIGA)

■ Project structure



■ Downstream infrastructure timetable

| | | |
|--------------|---|--------------------|
| horizon 2017 | Dual 120MW Plant | Oct. 2014 |
| | Additional Dual 60MW | Aug. 2015 |
| | CCGT 130MW NKC | 4th trimester 2016 |
| | HV 225kV line / North plant - OMVS substation | 4th trimester 2015 |
| | HT 225kV line NKC-NDB | 4th trimester 2016 |
| | HT 225kV line NKC-Tobène | 1st semester 2017 |



■ **Next Steps :**

- Signature of the GSA between Tullow and SPEG
- Signature of the PPAs :
 - SPEG – SOMELEC
 - SOMELEC – SENELEC (Senegal)
 - SOMELEC – EDM (Mali)
 - SOMELEC – SNIM
- Building the infrastructure...

THANK YOU